

Section 3-5: Proving Lines Parallel

By the end of this lesson, you should be able to answer:

- How do you recognize angle pairs that occur with parallel lines?
- How do you prove that two lines are parallel using angle relationships?

Postulates & Theorems:

1. Converse of Corresponding Angles Postulate

2. Parallel Postulate

3. Alternate Exterior Angles Converse

4. Consecutive Interior Angles Converse

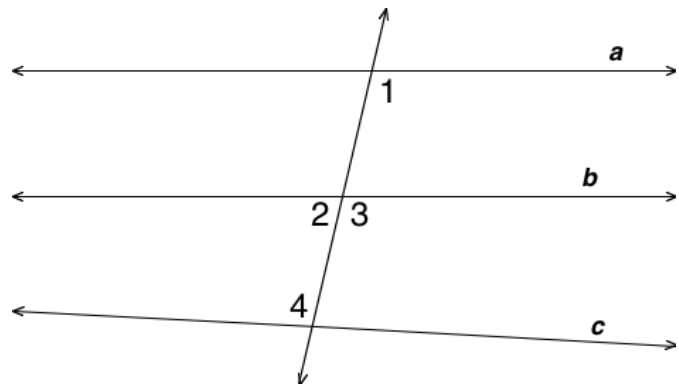
5. Alternate Interior Angles Converse

6. Perpendicular Transversal Converse

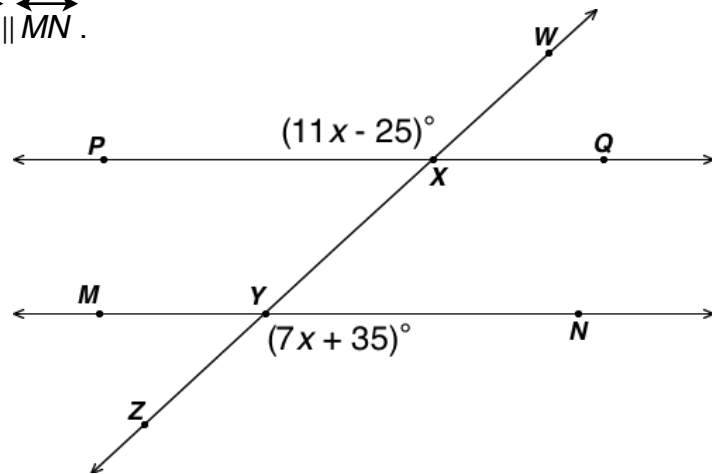
Example 1: Given the following information, is it possible to prove that any of the lines shown are parallel? If so, state the postulate or theorem that justifies your answer.

a. $\angle 1 \cong \angle 3$

b. $m\angle 1 = 103^\circ$ and $m\angle 4 = 100^\circ$



Example 2: Find $m\angle ZYN$ so that $\overleftrightarrow{PQ} \parallel \overleftrightarrow{MN}$.



Problem Set:

"Nothing in life is to be feared. It is only to be understood."
- Marie Curie